



Summary of 2018 Northern Pike Suppression Results on Box Canyon Reservoir, Pend Oreille River, WA.

Mechanical suppression of Northern Pike (NP) in Box Canyon Reservoir occurred between March 5 and April 12 with crews deploying 267 nets and removing 271 Northern Pike. The final catch-per-unit-effort (CPUE) was 1.01 NP/net-night for the 2018 suppression effort. The Kalispel Natural Resources Department and Washington Department of Fish and Wildlife collected 33 Northern Pike during the 2018 Spring Pike Index Netting (SPIN) Survey conducted April 30 through May 3. The resulting CPUE of 0.60 NP/ net-night (95% CI: ± 0.46), in sloughs and mainstem river between Riverbend and Pioneer Park Campground met the abundance target of ≤ 1.73 NP/net-night for these sections of the reservoir. No Northern Pike were captured north of Riverbend and met the target of ≤ 0.50 NP/net-night.

In total, 17,464 Northern Pike have been removed since the suppression project in Box Canyon Reservoir began in 2012.

Mechanical Removal March 5-April 12:

- Netting took place in known spawning locations throughout the reservoir
- Two 3-man crews worked 4 days per week deploying up to 30 nets per day
- Collected biological information such as weight, length, sex and maturity on all Northern Pike caught
- Total nets deployed: 267
- Overall CPUE: 1.01 NP/ net-night

Northern Pike catch summary (Table 1):

- Total catch: 271 NP, 0.185 mT (408.8 lbs.)
- Overall size range: 253 mm to 1,200 mm TL (10-47 inches), weight: 136 g to 9,870 g (0.3 to 21.8 lbs.)
- Males averaged 431 mm TL (17 inches), 588 g (1.3 lbs.)
- Females averaged 467 mm TL (18 inches), 854 g (1.9 lbs.)
- Females made up an estimated 36% of the total catch, of which an estimated 12% were mature, ripe or spawned out (Table 2)
- Removed 12 mature pre-spawn females and 86 immature females

Mechanical Suppression Bycatch Summary:

- 19 fish species, 5,044 individuals, >90% survival (Table 3)

Spring Pike Index Netting April 30-May 3

- Net placement sites were selected using a reservoir-wide spatially balanced random sampling design
- Collected biological information such as weight, length, sex and maturity, as well as growth structures for later analysis on all NP collected
- Total nets deployed: 63
- CPUE for the mainstem river north of Riverbend was 0.0 NP/net-night (target ≤ 0.5); CPUE for all sloughs and mainstem river south of Riverbend was 0.60 NP/net-night (target ≤ 1.73)

SPIN catch summary (Table 1)

- Total catch: 33 NP, 0.025 mT (55.5 lbs)
- Overall size range: 286 mm to 820 mm TL (12-32 inches), 142 g to 4,342g (0.3-9.5 lbs.)
- Males averaged 442 mm TL (17 inches), 662 g (1.5 lb)
- Females averaged 473 mm TL (19 inches), 869 g (1.9 lbs)
- All but one female was immature (n=15)

Tables and Figures

Table 1. Data summary and statistics for the 2018 Box Canyon Reservoir Northern Pike mechanical suppression effort and SPIN survey.

	Suppression Phase I	SPIN Survey
Sampling Dates:	March 5 to April 12	April 30 to May 3
Days per Week:	4	4
Nets/Day:	10-30	7-30
Total Nets:	267	63
NP Catch-Per-Unit-Effort (CPUE):		
Overall CPUE:	1.01	North: 0.0 Slough and South: 0.60
Percent Positive Catch:	39%	17%
Most northern pike in one net:	24	10
NP Catch Statistics:		
Total Number:	271	33
Total Weight:	0.185 mT	0.025 mT
Total Length Range:	253 mm to 1,200 mm	286 mm to 820 mm
Weight Range:	136 g to 9,870 g	142 g to 4,342 g
Mean TL Males:	431 mm	442 mm
Mean TL Females:	467 mm	473 mm
Sex Ratio (% female):	36%	48%
Juvenile Catch (<450 mm):	63%	60%

Table 2. Estimated maturity rates of all Northern Pike removed during 2018 mechanical suppression efforts in Box Canyon Reservoir.

Sex	Immature	Mature	Ripe	Spawned Out
Female	88%	10%	0%	2%
Male	54%	22%	24%	0%

Table 3. Summary of fish bycatch captured during the 2018 Northern Pike mechanical suppression efforts. Observed bycatch survival rates were >90 % for the project.

Common Name	Species Name	Number	% of Total
Salmonidae			
Rainbow Trout	<i>Oncorhynchus mykiss</i>	5	0.10
Lake Whitefish	<i>Coregonus clupeaformis</i>	1	0.02
Eastern Brook Trout	<i>Salvelinus fontinalis</i>	15	0.30
Brown Trout	<i>Salmo trutta</i>	29	0.57
Westslope Cutthroat Trout	<i>Oncorhynchus clarki lewisi</i>	3	0.06
Lake Trout	<i>Salvelinus namaycush</i>	1	0.02
Esocidae			
Grass Pickerel	<i>Esox americanus vermiculatus</i>	6	0.12
Cyprinidae			
Peamouth	<i>Mylocheilus caurinus</i>	28	0.56
Northern Pikeminnow	<i>Ptychocheilus oregonensis</i>	35	0.69
Tench	<i>Tinca tinca</i>	731	14.49
Catostomidae			
Longnose Sucker	<i>Catostomus catostomus</i>	4	0.08
Largescale Sucker	<i>Catostomus macrocheilus</i>	22	0.44
Ictaluridae			
Brown Bullhead	<i>Ameiurus nebulosus</i>	134	2.66
Centrarchidae			
Pumpkinseed	<i>Lepomis gibbosus</i>	685	13.58
Smallmouth Bass	<i>Micropterus dolomieu</i>	1	0.02
Largemouth Bass	<i>Micropterus salmoides</i>	303	6.01
Black Crappie	<i>Pomoxis nigromaculatus</i>	697	13.82
Percidae			
Yellow Perch	<i>Perca flavescens</i>	2,341	46.41
Walleye	<i>Sander vitreus</i>	3	0.06
Grand Total (all species)		5044	100